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STUDY PROJECT

SOLVING THE ARMY NATIONAL GUARD FORWARD SUPPORT BATTALION STAFF TRAINING PROBLEM

BY

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USAWC CLASS OF 1993

U.S. ARMY WAR COLLEGE, CARLISLE BARRACKS, PA 17013-5050

SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED	1b. RESTRICTIVE MARKINGS
2a. SECURITY CLASSIFICATION AUTHORITY	3. DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release. DISTRIBUTION STATEMENT A Distr. is unlimited
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE	
4. PERFORMING ORGANIZATION REPORT NUMBER(S)	5. MONITORING ORGANIZATION REPORT NUMBER(S)
6a. NAME OF PERFORMING ORGANIZATION U.S. ARMY WAR COLLEGE 6b. OFFICE SYMBOL (If applicable)	7a. NAME OF MONITORING ORGANIZATION
6c. ADDRESS (City, State, and ZIP Code) ROOT HALL, BUILDING 122 CARLISLE, PA 17013-5050	7b. ADDRESS (City, State, and ZIP Code)
8a. NAME OF FUNDING/SPONSORING ORGANIZATION 8b. OFFICE SYMBOL (If applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER
8c. ADDRESS (City, State, and ZIP Code)	10. SOURCE OF FUNDING NUMBERS PROGRAM ELEMENT NO. / PROJECT NO. / TASK NO. / WORK UNIT ACCESSION NO

11. TITLE (Include Security Classification)

SOLVING THE ARMY NATIONAL GUARD FORWARD SUPPORT BATTALION STAFF TRAINING PROBLEM

12. PERSONAL AUTHOR(S)
LTC RANDALL E. KRUG, USA

13a. TYPE OF REPORT	13b. TIME COVERED	14. DATE OF REPORT (Year, Month, Day)	15. PAGE COUNT
STUDY PROJECT	FROM _____ TO _____	930512	37

16. SUPPLEMENTARY NOTATION

17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)
FIELD	GROUP	SUB-GROUP	

19. ABSTRACT (Continue on reverse if necessary and identify by block number)

With the continued downsizing of the active forces, the ability of the Army National Guard roundout brigades to enter combat quickly after mobilization and fight effectively is an essential part of this nation's Total Force policy. During Operation Desert Shield/Storm, none of the Guard roundout brigades achieved combat-ready status before the war ended. An integral part of the brigade is the forward support battalion, yet little attention is paid to its formal staff training. The Army has no armory or unit based training system for forward support battalion staffs. This study states a need for such a system that is both technically feasible and will decrease post-mobilization training time. This author proposes a system that will result in a trained forward support battalion staff.

20. DISTRIBUTION/AVAILABILITY OF ABSTRACT ☐ UNCLASSIFIED/UNLIMITED ☒ SAME AS RPT. ☐ OTIC USERS	21. ABSTRACT SECURITY CLASSIFICATION UNCLASSIFIED
22a. NAME OF RESPONSIBLE INDIVIDUAL COL STEPHEN D. WILLIAMS	22b. TELEPHONE (Include Area Code) 717-245-3165 22c. OFFICE SYMBOL AWCAW

DD Form 1473, JUN 86 *Previous editions are obsolete.* SECURITY CLASSIFICATION OF THIS PAGE

USAWC MILITARY STUDIES PROGRAM PAPER

SOLVING THE ARMY NATIONAL GUARD FORWARD SUPPORT BATTALION STAFF TRAINING PROBLEM

AN INDIVIDUAL STUDY PROJECT

by

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ABSTRACT

AUTHOR: Randall E. Krug, LTC, USA

TITLE: Solving The Army National Guard Forward Support Battalion Staff Training Problem

FORMAT: Individual Study Project

DATE: 12 May 1993 PAGES: 35 CLASSIFICATION: Unclassified

With the continued downsizing of the active forces, the ability of the Army National Guard roundout brigades to enter combat quickly after mobilization and fight effectively is an essential part of this nation's Total Force policy. During Operation Desert Shield/Storm, none of the Guard roundout brigades achieved combat-ready status before the war ended. An integral part of the brigade is the forward support battalion, yet little attention is paid to its formal staff training. The Army has no armory or unit based training system for forward support battalion staffs. This study states a need for such a system that is both technically feasible and will decrease post-mobilization training time. This author proposes a system that will result in a trained forward support battalion staff.

INTRODUCTION

On 28 February 1991, the last day of the Persian Gulf war, the 48th Mechanized Infantry Brigade (Separate) of the Georgia Army National Guard (a roundout brigade of the 24th Mechanized Infantry Division) was declared combat ready. This was 91 days after activation and 199 days after its active component division mobilized.[1] In late November and early December 1991, two other Army National Guard roundout brigades were activated. These brigades were scheduled for final combat ready certification 22 and 44 days after the 48th brigade.[2] As a result of the length of time it took these brigades to become combat ready, the "Army does not plan to include Army National Guard combat brigades in the initial deployment of the contingency force."[3]

While many highlight the cost efficiencies of the roundout concept, the brigades' inability to receive combat ready status in time to participate in Desert Storm and fight with their divisions calls their cost effectiveness into question. The future of the roundout concept and the Total Force Policy may be jeopardized. According to a 1992 GAO report,

> ...the Army has concluded that it is impractical to assign early deployment missions to reserve combat brigades because of the time needed for post-mobilization training required for a unit of that size.[4]

Roundout brigade forward support battalion staffs experienced problems during their Desert Shield/Storm

mobilization period. "...inexperience in planning and conducting CSS operations delayed logistics readiness improvement and degraded support to training for many brigade units."[5] The lack of formal training for forward support battalion staffs is noted, "Several forward support battalions had never supported the entire brigade and did not routinely train together as a battalion."[6] A recent Center for Army Lessons Learned newsletter stated that forward support battalion tactical operations center (TOC) operations are not on track at the National Training Center.[7]

Another reason it took so long to train these roundout units was the inability of the battalion and brigade staffs to synchronize and integrate the fight.[8] Their pre-mobilization training did not adequately prepare the commanders and staff so they could fight a brigade at the National Training Center.

The commanders of the 116th and 48th Army National Guard roundout brigades have voiced concern over their inability "to get a handle" on the forward support battalion synchronization and integration training challenge.[9] The staff training problem is a constant and is not being addressed. A solution is required if we are to decrease the post-mobilization training time required of roundout brigades.

The Congressional Research Services' report, The Army's Roundout Concept After the Persian Gulf War, suggests that roundout brigade leaders and staff can be brought to a combat ready state if the active Army is prepared to devote some

resources to their post-mobilization training.[10] Regarding the training of the 48th brigade at the National Training Center, Robert L. Goldich, the author of a Congressional Research Service report states,

> ...the intrinsic capabilities of most Guardsmen and small units in the brigades were quite high, and required only a rigorous reorientation to a full-time military environment, a technical "brushup," and some intensive training for battalion and brigade leaders and staffs, to be ready for war.[11]

The purpose of this paper is to propose an armory based staff training system using emerging information technologies. Once instituted, this system should reduce the post-mobilization training time required of a roundout brigade forward support battalion staff. This paper will: (a) describe the Total Force Policy and its importance to US national defense; (b) explain the roundout concept as it relates to the Total Force Policy; (c) outline the staff training deficiencies of roundout forward support battalions; (d) describe the congressionally mandated Advanced Research Projects Agency (ARPA) project designed to correct the training deficiencies of test battalions of selected roundout brigades; (e) describe four existing technologies; (f) show how these technologies could be integrated to develop an armory based simulation system that is technically feasible and designed to train the forward support battalion staff.

THE TOTAL FORCE POLICY

The Total Force Policy concept was conceived by Secretary of Defense Melvin Laird and his Army Chief of Staff, General Creighton Abrams, in 1970[12]. In 1973, then Secretary of Defense, James Schlesinger, turned the concept into policy by stating, "The Total Force is no longer a 'concept.' It is the Total Force Policy which integrates the Active, Guard and Reserve forces into a homogenous whole."[13] The Department of Defense states that the official Total Force policy is:

> ...to place maximum reliance on Guard and Reserve units and manpower. We use active units and manpower to support scheduled overseas deployment or sea duty, training requirements, and to support the rotation base. Above that level, we plan to support military contingencies with Guard and Reserve units and manpower when they can be available and ready within planned deployment schedules on a cost effective basis.[14]

The Total Force is built on two tenants. First, planners will consider reserve forces as primary augmentation for the Active force. Second, military responses will involve the integrated use of all forces available, including active and reserve.[15]

The Total Force Policy was intentionally designed to ensure the reserves would be called whenever a war of any magnitude was fought.[16] When General (Ret) Walter Kerwin was asked about General Abrams Total Force concept at an Army War College lecture, he responded, "Abe (General Creighton Abrams) said, 'If

we're ever going to war again, we're going to take the reserves with us.'"[17]

THE TOTAL FORCE POLICY AND ROUNDOUT

An integral part of the Total Force Policy is the roundout concept. Under this concept, reserve component maneuver units (usually brigades) complete or "roundout" an active Army division. The first and second maneuver brigades of a roundout division are active duty units while the third maneuver brigade is a reserve component unit.* Roundout allows the Total Army to meet four goals. First, field more divisions; second, field them at less cost; third, force the Total Force Policy to work and fourth, improve the readiness and visibility of reserve component maneuver units.[18]

It is vitally important that roundout units be trained so that they are combat ready. Decreasing post mobilization training time for reserve component forces is critical to the future success of the Total Force policy. If roundout brigades cannot be properly trained in time to fight with their parent divisions then this policy may be flawed.

*The Army Reserve's 205th Infantry Brigade is roundout to the 6th Infantry division. It is the only Army Reserve roundout brigade, all the other brigades are Army National Guard units.

ROUNDOUT BRIGADE STAFF PERFORMANCE

The current Total Army staff training system is not producing trained battle staffs.[19] The absence of formal, or structured battalion staff training, at active component officer basic and advanced courses exacerbates the problem.[20] There are even fewer battle staff training programs available to the reserve component battalion commander. The few that are available (Tactical Commander's Development Course, Battalion Staff Non Commissioned Officer Course) are active component schools that require the reserve component soldier attend in a temporary duty status.

Because of limited staff training opportunities available prior to mobilization, roundout brigades experienced numerous problems during post mobilization training for Desert Shield/Storm. A report by the Congressional Research Service, written immediately after the Persian Gulf War, quotes an analyst who worked with the active Army trainers responsible for the training of an un-named roundout brigade. This analyst stated, "none of the brigade and battalion staffs were capable of functioning in a combat environment initially..."[21] A congressional staffer, who received extensive briefings in the field during the roundout brigade's post mobilization training, stated that many of the brigade staffs "suffered from the condition that they had not worked together enough as a collective whole."[22]

A 1992 RAND** study on Total Army force structure and mix noted that commanders and battle staffs experienced numerous training problems.

> Lacking technical and tactical skills many leaders could not make routine operations happen routinely. They demonstrated poor knowledge, insight, and command and control.[23]

Staff performance was a continued problem during the post-mobilization training period of the roundout brigades. A staff training system is needed so that the pre-mobilization training period is used to preclude these problems from happening again.

THE ARPA CHALLENGE

Because of the need to decrease post mobilization training time, the Senate approved funding for research into ways of remedying this training and readiness problem.[24] The Advanced Research Projects Agency, formerly the Defense Advanced Research Projects Agency, in conjunction with the National Guard Bureau received the mission to develop a project with the goal of solving this reserve component training problem.[25]

The Advanced Research Projects Agency, which is the central research and development organization of the Department of Defense, has a number of missions. They are: 1) to pursue

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** Assessing the Structure and Mix of Future Active and Reserve Forces: Final Report to the Secretary of Defense, December 1992, the RAND institution, Santa Monica, CA. Hereafter it will be referred to as the Rand Force Mix Study.

imaginative and innovative research and development; 2) to manage direct and applied research to exploit scientific breakthroughs; 3) to demonstrate revolutionary approaches for improved cost performance; and 4) to stimulate greater emphasis on prototypes in defense systems.[26]

In response to Secretary of Defense Chaney's 1991 request on how the United States could keep its scientific and technology edge in the 21st century, the Office of Defense Research and Engineering established seven science and technology thrust areas.[27] Thrust area six (synthetic environments) was chosen as the area where the Advanced Research Projects Agency/Army National Guard training project would fit the Advanced Research Projects Agency charter.[28]

The Advanced Research Projects Agency/ARNG project is now defined as the Advanced Technology Demonstration #2. Advanced Research Projects Agency project objectives are to demonstrate:

-- the affordable distribution of simulation technology;

-- how the Army National Guard can integrate into the Defense Simulation Internet (DSI) architecture and;

-- to what extent advanced technologies and innovative training strategies can affect Army National Guard unit performance.[29]

If the Advanced Technology Demonstration project is successful it will result in the use of new technologies and methodologies in the training of Army National Guard units. If successful, this project will also decrease pre-mobilization training time. What is presently accomplished in one week of

Annual Training can be done in one Inactive Duty Training weekend. In addition, post-mobilization training that presently takes 90 days can effectively be accomplished in 30 days.[30]

The Advanced Research Projects Agency vision for the entire program is challenging. Within ten years, it calls for an Army National Guard that is able to: 1) integrate well with its parent active component unit; 2) conduct, competently, contingency operations training for an increasingly lethal and sophisticated battlefield; and 3) use state of the art technologies to plan for, train and rehearse federal and state missions.[31] Within five years, the project must demonstrate these capabilities by using advanced distributed training technology to conduct a proof of principle experiment.[32]

This project will culminate with two Army National Guard roundout brigades deploying to the National Training Center for exercises in training years 1996 and 1997. This proof of principle will lead the Army National Guard integrated training strategy into the next century.[33]

The RAND Study on Force Mix recommended that the Advanced Research Projects Agency project continue with its work because of its potential of decreasing post mobilization training time.[34] They agreed with the Institute of Defense Analysis report that found there is the potential for "significant improvements in ARNG training readiness...reductions in their post-mobilization (training) time," should certain assumptions about the efficiency of simulations be satisfied.[35]

SIMULATIONS IN THE ARMY

Almost all training is a simulation. The Army employs three kinds of simulations. Those are: live, constructive, and virtual.[36] Each of these systems has proven invaluable to the combat readiness of our armed forces.

Live simulations use real equipment with real people in the field or the classroom. The concept of live Instrumented Tactical Engagement Simulation (ITES) was first used by the U.S. Navy. During the Vietnam War the Navy was experiencing large losses of their pilots and aircraft when their pilots experienced their first air-to-air engagements. The Navy decided to simulate those enemy engagements at the Naval Fighter Weapons School which they named Top Gun. The navy's losses were cut dramatically due to the Top Gun training experiences.[37]

This experience was not lost on the Air Force and they built their own version of Top Gun and called it Red Flag. The Air Force built a fully instrumented range at Nellis Air Force Base. The idea was to simulate the first ten missions air force pilots were expected to fly in combat in Europe.[38] Testing by the US Air Force demonstrated that training using the "ten mission" scenario would increase by 30% the number of aircraft available in actual combat.[39]

In 1976, U.S. Army Major General Paul Gorman reviewed the Top Gun and Red Flag programs and wrote a concept paper on how the Army could use simulation technologies to get the same kind

of training benefits the sister services were receiving.[40] The National Training Center, with its premier Tactical Engagement Simulation systems, came from this paper.

Our most realistic training center, the National Training Center, employs numerous live, real-time simulations. Live simulations are the kind of training most reserve component units conduct. It spans the spectrum of being the most elaborate to being the most simple. It can be expensive or inexpensive. Live fire exercises are a classic example of this type of simulation. They are expensive, can be dangerous and are labor and time intensive.

Constructive simulations consist of wargames, models and analytical tools.[41] An automated command post exercise is a constructive simulation. A computer receives the input from the staff, analyzes the information and transmits the results. These exercises are readily available to most active component units without having to leave their home station. The average reserve component unit may participate in a constructive simulation once per year during a weekend drill and only fight two combat operations on that weekend of training.[42]

The newest form of simulation is virtual.[43] This type of simulation allows the linkage of systems and simulators to fight together on synthetic (electronic) battlefields. Virtual simulation attempts to place the trainee into the simulation instead of being a bystander who only inputs data.[44] When the trainee is immersed in the virtual world, the training is made

more realistic resulting in increased training effectiveness.

The Army trains almost daily using a virtual system know as SIMNET (Simulation Network). One SIMNET training exercise has soldiers inside of tank simulators in Fort Knox, Kentucky, fighting on a virtual battlefield along side Army aviators inside of helicopter simulators at Fort Rucker, Alabama.

CPT Joe Sartiano, Commander, G Troop and CPT H. R. McMaster, Commander, E Troop, of the 11th Armored Cavalry Regiment, best summed up the impact of simulation training on their units' performance during the famous "Battle of 73 Easting." When Army Chief of Staff General Carl Vuono and Air Force Chief of Staff General Larry Welch asked:

> None of you have ever been in combat before. In previous wars, never have we been able to be so successful *in first engagements*. How do you explain your great success in your first battle?

They answered:

> Sir, this was not our first battle. This was our 15th battle! We fought three wars at the National Training Center and we fought four wars at the Combat Maneuver Training Center (CMTC), Hohenfels, Germany; and a lot of other simulations like SIMNET, COFT and BCTP. Yes sir, we had been "shot at" before. Many times. This war was just like our training.

The National Training Center, Combat Maneuver Training Center, Simulation Network (SIMNET), Conduct of Fire Trainer and the Battle Command training Program are all training systems that employ one or more types of simulations. Throughout the year these programs/systems provide invaluable training to our active units. The Army fields great training systems but the reserve

components has yet to access them in an efficient and effective manner.[45]

The reserve component forward support battalion needs these same kinds of pre-combat experiences if they are expected to support the first battle of the next war. While the above commanders were members of combat units, these same kinds of electronic simulation techniques can be applied to training the art and science of commanding and controlling forward support battalions. The Army makes extensive use of simulation for its training mission but it still has not developed a simulations system to train the forward support battalion staff. With the experience gained through years of training using simulation and by adding powerful technologies available today, a system can be developed that will train the forward support battalion staff.

ARTIFICIAL INTELLIGENCE

When General Maxwell Thurman was Vice Chief of Staff of the Army, he highlighted the importance of Artificial Intelligence (AI) when he said,

> The development of automated support (for the Army), resting in part on the application of artificial intelligence and related techniques...is essential to the successful planning, support, and operation of numerically outnumbered and dispersed forces.[46]

Artificial Intelligence involves the linking of two areas. One, understanding what human intelligence consists of and two, the software engineering task that translates human knowledge

into a computer program that can mimic human intelligence. The knowledge engineer takes knowledge from an expert and uses computer language making it available to the non-expert to use in order to assist him in making sound decisions.

Our challenge is to unleash the power of artificial intelligence to provide the simulations that will allow the reserve component forward support battalion to train to standard in an armory with minimal support.

NETWORKS

A computer network is the system that transports data from one area to another. It is analogous to the interstate highway system. Computer networks currently use copper and fiber optic cable, and in the future could use microwaves, to transport data.[47]

A computer simulation system needs to interact with other computers when it must access remote data bases containing terrain, intelligence, enemy forces and a variety of other data. This data must travel over a network to get to the requesting computer.

There are two types of networks. They are Local Area Networks (LANS) and Wide Area Networks (WANS). A LAN is typically limited to a single building or a department within a building.[48] The distance generally varies from a few feet to several thousand feet. A simulation system within an armory would

use a LAN to connect each workstation to the other.

The WAN is the same as a LAN except that it encompasses a much larger territory. Some day the entire world will be interconnected via various WANs.[49] It is the WAN that is critical to distributed interactive simulations. Very little of the data needed to conduct a simulation in a reserve component armory will need to be stored in the armory computer. The terrain data base, semi-automated forces and some human controller assistance will often be located thousands of miles away. The WAN is the "highway" that will transport the data from a central location to the armory.

The challenge for industry is to develop an affordable network with the capacity to transport the huge amounts of data required by a simulation system employing full motion enhanced video graphics. While this network is not available now, within 10 years it will be available and affordable.[50]

MICROPROCESSOR

The microprocessor industry is doubling computer processor power and cutting costs by one half each year.[51] At the present rate of integrated circuit improvement, one futurist predicts that by the end of the century a one-chip supercomputer will be manufactured for less than $100.[52] The continuing increase in processing power and decrease in cost means that the affordable processing power needed to support the envisioned training system

will be available within five years.[53]

VIRTUAL REALITY

There is no universally accepted definition of virtual reality.[54] Psychologists call it the "willful suspension of disbelief."[55] To most developers of virtual reality the core of every system is a data base that contains the data required to model images, terrain, etc, coupled with a powerful computer that can turn that data into three dimensional images.[56]

Two characteristics distinguish virtual reality from other computer graphics: virtual reality graphics convey multi-sensory information and are interactive.[57] Virtual reality, through its interactivity with the user, also causes the "immersion" of the user in the virtual world.[58]

The Army is using virtual reality today. Advanced Research Projects Agency reconstructed the Persian Gulf War Battle of 73 Easting and replays it on large video screens that allow the trainee to interact with the battle. Through the magic of computer simulations, the trainee rides on an enemy tank or inside a troop commander's Bradley Fighting Vehicle during the battle.[59]

The Advanced Research Projects Agency built a "magic carpet" known as the stealth feature that allows a soldier to ride around the battle field as if he were on a magic carpet while a simulation exercise is run.[60] The stealth feature (magic carpet)

is transparent to all except the person riding the carpet. This is a great learning tool in that it allows the soldier to gain an appreciation for the time and space factors that complicate any support operation.[61] For example, this feature could allow the S3 to "fly" over the main supply route to see if it would meet the needs of the supported units.

Virtual reality increases the realism and the capabilities of current simulation systems through interaction.[62] The ability to fly over and into the battle without other players knowing of your presence gives both the trainee and instructor a number of training advantages.

Total immersion causes the willful suspension of disbelief which means students get "sweaty palms" when they are in the virtual environment.[63] When the trainee is in the virtual world it is easier to believe the training is real and not computer generated.[64]

While virtual reality holds great promise, there are some problems with it. Due to the lack of processing speed, today's computers must portray cartoon type images in order to keep the frame speed close to normal (30 frames per second). When full three dimension high quality graphics are used the frame speed drops to the 4-12 frames per second speed which can cause humans to get motion sickness.[65] Computer processing power must increase sufficiently (and is projected to in the near future) in order have the computer refresh the view at a normal rate making this promising technology an available and affordable reality.[66]

FORWARD SUPPORT BATTALION

STAFF SIMULATION SYSTEM

I propose that every forward support battalion headquarters have a suite of hardware and software that will allow the battalion commander to train his staff using distributive interactive simulations. The purpose of the system is to train the forward support battalion staff so that they could be certified combat ready within 30 days of mobilization.

This suite will have the processing power to display full motion enhanced video graphics and be connected to the suites at other armories allowing for interactive simulations. The commander will have a complete technical and human support system which allows soldiers to train and not be computer operators.

The simulation system would train the staff on synchronization and integration skills. The computer would have enough power to run 20 work stations and three large screens, all interconnected via a LAN, allowing the trainees to enter virtual reality.[67] The system would harness the power of technology to train battle staffs at home station.

There would be a three-phase process of staff training. Each phase would have a complete Measures of Performance (MOP) and Measures of Effectiveness (MOE) written for it. The staff would progress sequentially through each phase as the MOP/MOE are satisfied.

All training would be conducted during Inactive Duty Training (weekends). This system would not be hardened or able to be exercised in the field. It would stay in the armory.

The proposed simulation system would incorporate a number of expert systems to make the it less reliant on human experts. The expert system could move enemy forces on the battlefield, send messages to the staff and send intelligence reports. In other words, the expert system could take the place of or reduce the need for systems that are usually operated by humans.

While many functions can be automated, the system will need humans to execute the observer/controller and organizational effectiveness missions. The human support system would include Observer/Controllers for Interaction (OCI) and Observer/Controllers for Tactics (OCT). The Observer Controller for Tactics would be responsible for training and evaluating vertical effectiveness within each battle field operating system (BOS). The Observer/Controller for Interaction would be responsible for teaching and evaluating horizontal skills.[68]

The quality of the application of the Battlefield Operating Systems (BOS) is called vertical effectiveness. In order to successfully execute the support mission the forward support battalions staff will apply with varying combinations the seven Battlefield Operating Systems. They are Maneuver, Fire Support, intelligence, Mobility, Countermobility and Survivability, Air Defense, Combat Service Support; and Command and Control. Each BOS must be coordinated and synchronized up and down the chain of

command in order to execute any number of missions.

Horizontal effectiveness is the ability of a group (battle staff) at any level to operate together as an effective organization. The group skills such as sensing, communicating information, communicating implementation, and feedback are competencies of a trained battle staff.[69] When a unit achieves a high level of horizontal effectiveness it can expect to (a) function more smoothly; (b) adjust to changes in the tactical situation with a minimum of error and wasted effort; and (3) maintain higher levels of unit effectiveness under the pressures of combat.

The Observer/Controllers for tactics and interaction would be members of the Resident Training Detachments (RTD). Resident Training Detachments are an integral part of the US Forces Command (FORSCOM) Bold Shift program which assigns active duty soldiers to roundout battalions.

The forward support battalion resident training detachment will consist of a major, four captains, two warrant officers and six noncommissioned officers.[70] This paper proposes that an additional duty of the Resident Training Detachment would be that of support staff specifically trained to assist with the conduct of staff training exercises using the armory based simulation system.

Two of the captains would be trained as observer/controllers for tactics. Using Resident Training Detachment officers as Observer/Controllers for tactics and interaction would serve a

number of purposes. They would provide each forward support battalion staff with a trained Observer/Controller who knew the standards of performance required of a staff. They also would provide Observer/Controllers that are certified by the Army so that when they describe a unit as having met a training standard it would be valid. Training observations would be less subjective and more valid and predictable since trained and certified active duty Army officers would make those assessments and not unit personnel.

I envision a three step process of training the forward support battalion battle staff. This process would be in consonance with the typical Army crawl, walk, run scenario.

Phase I would be a completely visible simulation. Visible means the staff would see the entire simulation. This would be the crawl phase where the staff would only learn what actions are required and how a proper staff functions. Phase II would be a semi-transparent simulation with the staff interacting with the simulations system at work stations. Phase III or the run phase would find the staff in their tactical operations center proximate to the armory with none of the staff directly working with the simulation system.

During phase I the staff would be in the learning mode and not conducting a staff exercise. The battle staff would have three large screens that would allow them to "see" the entire battle field. The screens would be similar to the Advanced Research Projects Agency's system that was used to display the

Battle of 73 Easting.[71]

The screens must have the ability to show not only the supported maneuver brigade's doctrinal 300 square kilometers Area of Operations (AO) but deep into enemy territory and into the units on both sides of the supported brigade. The screens would be large enough and linked to computers with sufficient processing power to immerse the trainees in the virtual world. This ability is critical if the staff is to get the scope of the support requirement.

Most reserve component forward support battalion staffs do not get the opportunity to train at the National Training Center and therefore, never get placed in a position to support a tactical unit using its doctrinally sized Area of Operations. The National Training Center is one of the few places in the United States where a staff must support a maneuver brigade using all of its maneuver area.

Forward support battalions are criticized by the maneuver units for not knowing the tactical situation and adjusting their support to meet their requirements.[72] Leaders train their soldiers so that the soldiers understand how they fit into the tactical scheme. While many soldiers only understand their portion of the fight, the staff officer must know the big picture. He must know how his actions affect the tactical operation.[73]

Using the large screens to show a National Training Center scenario and terrain would give the staff the appreciation of the

immense scope of the support requirement. Phase I emphasizes "the big picture" while latter phases emphasize individual staff actions.

Both OCI or OCT would talk the staff through an entire operation in excruciating detail. The staff members would be in the individual student learning mode. The operation could be "rewound" and played back like a National Football League instant replay. Students would be encouraged to ask questions at any time during the lesson. This phase would be akin to an after action review but not of their unit but of a different unit. Both the observer controller for tactics and integration would use this opportunity to train the staff since there is no opportunity to evaluate the staff at this time.

The phase I simulation would be a copy of a recent successful engagement at the National Training Center. It would focus on how the forward support battalion supported the tactical operation. While some of the tactical play would be shown, it would only be shown in the context of how it was supported by the forward support battalion. The operations plan would be presented and understood since it forms the basis for the support plan.

During Phase I liberal use of the stealth feature is anticipated. This feature allows the commander or staff officer to get a first hand view so that a problem could be analyzed and a solution developed. While this can not be done on the battlefield, during training it is a great learning tool which

can only speed the training process. It is this capability for direct personal intervention that makes this feature so unique and powerful. The observer/controller for tactics would control the use of this feature so that it is not abused.

Phase I will take as much time as necessary to meet the MOP/MOE. Since this phase is instruction only it is expected to last no more than 16-24 hours. The goal is to get out of this phase and into phase II as soon as possible.

The second phase of this three step process would be the semi-transparent phase. During this phase the simulation would be fully resident within the forward support battalion armory. The armory would house the screens, processors and work stations where data is input, processed and output received.

The staff would be in the *execute mode* but with the screens totally visible. This would increase their ability to perform their staff tasks since they could see the entire battlefield. This would allow them to anticipate requirements and view problems before they arose. The staff could use the stealth feature to improve their decision making process.

This is not the way a staff operates during actual operations since they must control their operations using the C^2 aids available, but during this phase of training the staff is still acquiring skills and needs additional training aids. During this walk phase this additional help would speed learning. The goal at this time is to not have a honed team but a team that is learning its business.

Again the staff would not progress to Phase III until the MOP/MOE for Phase II are satisfied. Some staffs may never reach phase III and continue to train using Phase II tasks, conditions and standards. A reasonably competent staff may be able to transition to phase III after 6-8 weekends of staff training which translates to 6-8 months of time since the reserve components only train one weekend per month.

The third and final phase would be "full transparency." In other words the simulation system would be transparent to the staff. As far as the staff is concerned it is a real war since they will have no interaction with the computers or any parts of the simulation system.

During this phase the staff would be housed in a TOC inside or outside of their armory. The brigade S1 and S4 would collocate since this is how it is done in the field. (If the S1 and S4 couldn't participate, an expert system would fill their role.) The staff would operate as if this was a real operation. They would not be able to see any screens and would get their information the same way it is obtained in the field, namely, Army supplied communications and computer systems.

This phase would be the run portion of the walk, crawl, run paradigm. The staff would be evaluated like any other staff during a normal staff exercise. Most of the observer/controller time would be spent gathering data and observing training, just like the observer/controllers at the National Training Center. Functional and staff training would have taken place in phases I

and II. This time the staff would be honing skills, improving team building and increasing staff interaction skills.

The brigade commander could conduct an exercise with all of his subordinate battalions by distributing simulations through a Wide Area Network. Each battalion within the roundout brigade would have a simulation system suite. By networking all of the suites, the brigade commander could exercise all of his maneuver battalion staffs, the forward support battalion staff and the brigade staff.

CONCLUSION

An integral part of the Total Force Policy is the roundout brigade. The combat readiness of these roundout brigades is often determined by the effectiveness of the forward support battalion staff. At present formal forward support battalion staff training is neglected throughout the Army. This deficiency is particularly acute in the reserve components where access to training areas and facilities is often limited.

Although simulation systems are used throughout the armed services, there are no unit or armory based simulation systems designated for the training of forward support battalion staffs. Congress recognizes this as a problem as evidenced by their funding the ARPA project.

With the continued downsizing of the active forces and the

cost effectiveness of modern technology, the system I have described should be thought of as a combat training center in the armory. It would be cost effective and meet the needs for the training of forward support battalion staffs. The use of this training system would ensure the combat readiness of the forward support battalion and thus ensuring the success of the Total Force concept.

ENDNOTES

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[4]General Accounting Office, Army Force Structure, 41.

[5]This source can not be publicly released. Contact the project advisor for the source.

[6]Ibid., .

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[8]See note 5.

[9]Steven, Funk, Telephone interview with the author, 11 May 1993.

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[30]Ibid., 5.

[31]Ibid., 4.

[32]Ibid., 4.

[33]Ibid., 4.

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[36]George T. Singley III, "Distributed Interactive Simulations-A Preview," Army Research, Development and Acquisition Bulletin, (March-April 1993): 35.

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[42]Jones, 22.

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